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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHABMAN, MARK A

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,065	Applicant(s) WIETHOFF ET AL.	
	Examiner MARK SHABMAN	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 5-37 is/are pending in the application.
- 4a) Of the above claim(s) 25-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-24 and 33-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1,2, 5-24 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oosterling US Patent 6,578,516 B1 (hereinafter referred to as Oosterling) in view of Maier US Patent 6,571,731 (hereinafter referred to as Maier).

Regarding **claims 1 and 5**, Oosterling discloses a method and apparatus for determining milk quality during the milking process wherein a sample is filtered through filter 7 and examined via camera 6 to detect at least one object such as blood or flakes based on an object recognition rule of analyzing the filter for any potential hazardous objects (column 2). Oosterling describes situations in which the chamber overflows with bubbles in column 3 and the actions taken to control such an occurrence. When seen through the camera, it would have been able to tell the difference between a potential particle object and a bubble "non-particle object" as claimed. A distinction could easily be made between a biological particle such as blood and a mineral particle such as metal shavings or sand granules from the machine as described in column 2. Oosterling does not explicitly disclose using a detector and determination device as claimed.

Maier describes a method of analyzing milk samples in which a detection device is used for recording and analyzing particles within a milk sample and determining particle types accordingly. It would have been obvious to one of ordinary skill in the art

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at the time of invention to have combined the teachings of Maier with those of Oosterling to detect the particles described by Oosterling by using a detector, rather than simply a human observer, thus allowing the process to be fully automated.

Regarding **claim 2**, the method of Maier discloses using an element for clearing the filter via a controller as claimed.

Regarding **claim 6**, the apparatus and method of Maier identifies a portion of interest or area when there is contamination in the system as claimed.

Regarding **claim 7**, one of ordinary skill in the art at the time of invention would be able to take the image of the filter as described in Oosterling and Maier and locate a boundary by viewing the image and determining based on the boundaries of any contamination, what the contamination is and its extent. As discussed in column 3, the milk is to be classified based on its quality and thus any visible problems seen would be beneficial for such classification.

Regarding **claim 8**, column 2 of Oosterling describes specifying one parameter for detection such as color in contrast to the color of the filter and detecting that parameter.

Regarding **claim 9**, the parameter is captured optically via by the determination device of Maier as claimed.

Regarding **claim 10**, the parameter identified by Oosterling is derived by the lightness in contrast to the dark filter as described in column 2 and would be identified by the detecting device of Maier when combined.

Regarding **claim 11**, one of ordinary skill in the art at the time of invention would be able to take the image of the filter as described in Oosterling derive from the entrapped particles a parameter based on the "outer contour of an object" as claimed. For example, viewing the filter could produce an image of a hair which would be identified by its shape and outer contour. Such features would be identified by the detecting device of Maier when combined.

Regarding **claim 12**, the contrast of the contamination caught on the filter in relation to the color of the filter is used to determine if a problem exists as described in column 2. Further, the use of a UV or IR light to increase the contrast between the two is described in column 3. Such features would be identified by the detecting device of Maier when combined.

Regarding **claim 13**, the color of the contamination (i.e. blood) is used to determine contamination in the apparatus of Oosterling. Such features would be identified by the detecting device of Maier when combined.

Regarding **claim 14**, Oosterling describes using both color and contrast to determine whether contamination is present or not in the milk under test. It would have been obvious to one of ordinary skill in the art at the time of invention to have used both at the same time to determine whether an object such as blood was present or not. Such features would be identified by the detecting device of Maier when combined.

Regarding **claim 15**, as with the rejection of claim 14, two parameters are determined in the method of Oosterling. It would have been obvious to one of ordinary skill in the art at the time of invention to have used these parameters to determine what

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object was caught in the filter, including using fuzzy logic when programming the detection device of Maier. For example: if the color of the object is A and the contrast is B, then the object is C.

Regarding **claim 16**, the apparatus and method of Oosterling teaches analyzing the filter element with camera 6 to determine the quality of the milk. Elements such as Hue and intensity which depend on color would be present in such analysis and one of ordinary skill in the art would be able to apply a "gradient formation" to the results as this is seen as a simple data manipulation. Such features would be identified by the automated detecting device of Maier when combined.

Regarding **claim 17**, Oosterling describes using a limit value to determine contamination of a sample, which reads on the characteristic value as claimed.

Regarding **claim 18**, the light 5 of Oosterling is used to help identify the parameters which are to be detected as claimed. Such features would be identified by the detecting device of Maier when combined.

Regarding **claim 19**, column 3 of Oosterling describes using the analysis method for removal or separation of milk samples. If the quality is determined to be below an acceptable limit, it would have been obvious to one of ordinary skill in the art at the time of invention to have discarded the sample or removed it from the marketable milk as it could cause potential health problems.

Regarding **claim 20**, Oosterling describes a method in which a predetermined amount of milk is routed into a measuring chamber 15 which has an acquisition unit 6, part of the liquid phase of the milk is drained out through drain 16 as it passes through

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and at least a portion of the measuring chamber is captured by acquisition unit 6 for analysis. As the method of Maier is automated, a controller would be used for all routing of the samples as claimed. Maier further teaches using an optical device for capturing the image in the measuring chamber.

Regarding **claim 21**, Oosterling discloses a buffer chamber 15 which is used to hold a predetermined amount of milk and comprises a filter 9 on which a film is formed when contamination is present. Maier teaches using an automated controller to conduct the method.

Regarding **claim 22**, the objects are removed from the sample in Oosterling by filter 9 which prevents their passage. Maier then discloses cleaning the filter with an element or extractor.

Regarding **claim 23**, as the objects such as blood are collected in the filter of Oosterling or Maier, the frequency of the individual objects is determined since the system is operating over time.

Regarding **claim 24**, column 1 of Oosterling describes determining the quality of the milk being processed and stored in different containers. It would have been obvious to one of ordinary skill in the art at the time of invention to have classified the different storage tanks based on the amount of contamination or the frequency of the object types found in each sample. Such features would be identified by the determining device of Maier when combined.

Regarding **claim 33**, the Oosterling reference does not explicitly disclose measuring reflection objects. The Maier reference discloses a method of filtering milk in

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which a reflectivity of the filter changes as milk is filtered. In this method, light reflected as non-particle objects is detected and acknowledged. It would have been obvious to one of ordinary skill in the art at the time of invention to have measured this reflection in order to ensure it is not incorrectly counted as an unwanted particle.

Regarding **claim 34**, when examining the milk and particles in the filter, it would have been obvious to one of ordinary skill in the art at the time of Invention to have observed any defect objects which do not display the characteristics of particles and rule them out as potential contaminants to keep production operating.

Regarding **claim 35**, by illuminating the filter for viewing of potential particles, the transmissive light would be used as well as the reflected to determine whether particles are present.

Regarding **claim 36**, it would have been obvious to one of ordinary skill in the art at the time of invention to have based the milk grade on objects detected as the FDA requires strict guidelines for grading that would not be met due to high particle counts.

Regarding **claim 37**, as the method of Oosterling is used for determining whether a particle is in the filter, by detecting such a particle, it would in effect distinguish it from a defect as claimed.

Any inquiry concerning this communication should be directed to MARK SHABMAN at telephone number (571)270-3263.

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/Hezron Williams/
Supervisory Patent Examiner, Art Unit 2856

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